


Ecological Site Description ID:		F232XY211AK	
Ecological Dynamics of the Site:			
<p>This boreal ecological site occurs on very steep escarpments adjacent to loess plains. Average slope was 61% for sampled locations and ranged from 58-64%. This ecological site was observed on slopes with a southern and western aspect. Fire resulted in two observed plant communities. As sites progress from community phase 1.4 to 1.3, surface organic matter increases and a deciduous forest develops. For community phase 1.3, soils were classified as haplocryods and were composed of organic material over loamy colluvium over sandy and gravelly colluvium.</p> <p>Fire is a natural and typically unmanaged disturbance regime. The typical fire return interval for coniferous forests of interior Alaska is approximately 100 years. Due to limited sampling, only two community phases were developed for this ecological site. Since this ecological site has an associated fire regime, there are assumed to be several undocumented community phases making the state-and-transition model incomplete.</p>			
State and Transition Diagram:			
<div><div>1.0 Reference State</div><div>Boreal forest loamy slopes dry</div><div>F232XY211AK</div><div><div>1.1 (HCPC) Climax plant community</div><div>1.2 (2FL) Late fire community phase</div><div>1.3 (2FM) Aspen-kinnikinnick-buffaloberry-prickly rose-mixed forb forest</div><div>1.4 (2FE) Aspen-kinnikinnick-buffaloberry-mixed forb regenerating forest</div><div>1.1 a</div><div>1.2 a</div><div>1.2 b</div><div>1.3 a</div><div>1.3 b</div><div>1.4 a</div></div></div>			
State ID Number:	1	State Name:	Reference
State Narrative:	<p>Phases within the reference state were grouped on the structure and dominance of deciduous and coniferous trees which was believed to directly relate to severity of burn and time since last fire event.</p> <p>Due to the steepness, aspect, and minimal depth of organic matter for this</p>		

	<p>ecological site, a high-severity fire regime was considered to be the typical fire disturbance for this ecological site. In a high-severity fire, large proportions of the organic mat are consumed and mineral soils will typically be exposed. Permafrost often drops out of the soil profile and the sites become drier. While many pre-fire species likely regenerate after fire, conditions are suitable for the establishment and growth of species with wind-blown seed (e.g. paper birch, fireweed, willow).</p> <p>The fire return interval plays a large role in the structure of the observed forest. Longer fire return intervals favors development of community phases 1.1, while shorter fire return intervals favor development of community phases 1.2 and 1.3.</p> <p>Tall trees are defined as trees growing >40' in height, medium trees are defined as growing 15-40' in height, while stunted and regenerative trees are defined as growing less than 15' in height. Tall shrubs are defined to grow greater than 10' in height, medium shrubs are defined to grow 3-10' in height, low shrubs are defined to grow 8" – 3' in height, and dwarf shrubs are defined to grow less than 8" in height.</p>		
Photo 1.1	n/a		
Community Phase Number:	1.1	Community Phase Name:	Climax plant community
Community Phase Narrative:			
This community phase is theoretical but based on field observations. Community phase was believed to be a white spruce forest.			

Community Pathways	
Pathway Number	Pathway Name & Description
1.1 a	Fire.

Photo 1.2	n/a		
Community Phase Number:	1.2	Community Phase Name:	Late fire community phase
Community Phase Narrative:			
This community phase is theoretical but based on field observations. Community phase was believed to be a mixed white spruce-aspen forest.			

Community Pathways	
Pathway Number	Pathway Name & Description
1.2 a	Fire.
1.2 b	Normal time and growth without fire.

Photo 1.3			
Community Phase Number:	1.3	Community Phase Name:	Aspen-kinnikinnick-buffaloberry-prickly rose-mixed forb forest
Community Phase Narrative:			
<p><i>Populus tremuloides</i> is the dominant tree species and cover primarily occurs in the medium tree stratum. <i>Picea glauca</i> occurred at lesser densities in the regenerative tree stratum (total mature tree cover ~65%). Shrub cover was split between the low and dwarf strata (total shrub cover ~60%) and species commonly observed are <i>Rosa acicularis</i>, <i>Shepherdia canadensis</i>, <i>Juniperus communis</i>, <i>Arctostaphylos uva-ursi</i>, and <i>Linnaea borealis</i>. Forbs (~20% cover) were abundant and the most commonly observed species were <i>Galium boreale</i>, <i>Silene menziesii</i>, <i>Eurybia sibirica</i>, and <i>Pulsatilla patens</i>. Moss (~20% cover), leaf litter (~25% cover), and woody litter (~20%) were the primary components of ground cover. The most commonly observed moss was <i>Polytrichum sp.</i> This phase had one observation.</p>			

Community Pathways

Pathway Number	Pathway Name & Description
1.3 a	Fire.
1.3 b	Normal time and growth without fire.

Photo 1.4



Community Phase
Number:

1.4

Community
Phase Name:

Aspen-kinnikinnick-buffaloberry-mixed forb
regenerating forest

Community Phase Narrative:

Populus tremuloides is the dominant tree species and cover primarily occurs in the regenerative tree stratum (~55% cover saplings). *Picea glauca* and *Betula neoalaskana* occurred at lesser densities in the regenerative tree stratum (total mature tree cover ~10% all aspen). Shrub cover was split between the low and dwarf strata (total shrub cover ~120%) and species commonly observed are *Rosa acicularis*, *Viburnum edule*, *Shepherdia canadensis*, *Arctostaphylos uva-ursi*, and *Linnaea borealis*. Forbs (~30% cover) were abundant and diverse. The most commonly observed species were *Galium boreale*, *Silene menziesii*, *Eurybia sibirica*, *Chamerion angustifolium*, and *Pulsatilla patens*. Moss (~15% cover), leaf litter (~25% cover), and woody litter (~15%) were the primary components of ground cover. The most commonly observed moss were *Polytrichum sp.* and *Ceratodon purpurascens*. This phase had two observations.

Community Pathways

Pathway Number	Pathway Name & Description
1.4 a	Normal time and growth without fire.